

NONLINEAR SYSTEM, METHOD OF DESIGN THEREOF AND COMPUTER PROGRAM PRODUCT

ABSTRACT OF THE DISCLOSURE

The present invention relates to nonlinear systems and methods of design thereof in the frequency domain. Typically, conventional linear filter design involves attenuating signals at frequencies which are not of interest and dissipating the energy at those frequencies as, for example, heat or sound. However, in most systems, it is not always convenient to design a linear system or design a system solely with energy attenuation in mind. Therefore, the present invention provides a nonlinear system and method of design thereof in the frequency domain which can be used to transfer energy at a first pre-determinable frequency, or frequency range, to a second pre-determinable frequency, or frequency range. Using the method of the present invention a nonlinear system can be developed which can meet given energy transfer requirements or a nonlinear system can be designed which can alter the transfer function of an existing nonlinear or linear system.

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